

Reply to Office Action of March 9, 2006

**AMENDMENTS TO THE CLAIMS**

1. (Currently Amended) A process for producing an olefin-based copolymer, which comprises copolymerizing at least one olefin selected from the group consisting of ethylene and straight chain  $\alpha$ -olefins, a vinyl compound (I) described below and a polyene (II) described below:

Vinyl compound (I): a vinyl compound represented by the general formula  $\text{CH}_2=\text{CH-R}$ , wherein the substituent R is a saturated hydrocarbon group and steric parameters Es and B1 of the substituent R are respectively  $-1.64$  or less and  $1.53$  or more; and

Polyene (II): a compound having two or more of ethylene bonds and at least one combination of two ethylene bonds in which those are bonded to each other through at least three carbon ~~atoms~~ atoms.

wherein contents of monomer units based on the olefin, monomer units based on the vinyl compound (I) and monomer units based on the polyene (II) in the olefin-based copolymer to be obtained are 2 to 97 mol %, 2 to 97 mol % and 0.0001 to 10 mol % or less based on 100 mol % of the total monomer units of the copolymer, respectively.

2. (Original) The process according to claim 1, wherein the substituent R of the vinyl compound (I) is a secondary alkyl group, a tertiary alkyl group or a cycloalkyl group.

3. (Original) The process according to claim 1, wherein the vinyl compound (I) is vinylcyclohexane.

4. (Original) The process according to claim 1, wherein the polyene (II) is an aliphatic compound.

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5. (New) The process according to claim 1, wherein the contents of monomer units based on the olefin, monomer units based on the vinyl compound (I) and monomer units based on the polyene (II) in the olefin-based copolymer to be obtained are 6 to 84 mol %, 15 to 93 mol % and 0.01 to 1 mol % or less based on 100 mol % of the total monomer units of the copolymer, respectively.

6. (New) The process according to claim 3, wherein the contents of monomer units based on the olefin, monomer units based on the vinyl compound (I) and monomer units based on the polyene (II) in the olefin-based copolymer to be obtained are 6 to 84 mol %, 15 to 93 mol % and 0.01 to 1 mol % or less based on 100 mol % of the total monomer units of the copolymer, respectively.

7. (New) The process according to claim 6, wherein the polyene (II) is an aliphatic compound.